

disclaimer.

Applicants note that the claims as originally filed inadvertently included two claims numbered 91. Please renumber the second claim 91 ("A protein extract of claim 87, ... in an SDS-PAGE gel.") as claim 97.

Please amend the claims as follows:

C1  
sub  
D

9. (Amended) A non-naturally occurring composition of matter [according to claim 5, wherein said protein complex comprises] comprising a protein complex possessing nucleic acid polymerase enhancing activity, the complex comprising a plurality of subunits wherein at least one subunit has a molecular weight of approximately 17-18kD in the fully denatured, monomeric form, and wherein the complex is selected from the group consisting of: a polymerase-enhancing protein complex of one or more of isolated or purified naturally occurring polymerase enhancing proteins obtained from an archael source; a polymerase-enhancing protein complex of one or more wholly or partially synthetic proteins having the same amino acid sequence as the naturally-occurring protein or analogs thereof possessing polymerase enhancing activity; or a polymerase-enhancing protein complex comprising a mixture of one or more of the naturally occurring or wholly or partially synthetic proteins.

C2

16. (Amended) A composition of matter according to claim [15] 9, wherein said protein complex possessing polymerase enhancing activity further comprises at least

one protein from *Pyrococcus furiosus* having a molecular weight of approximately 17-18kD in the fully denatured, monomeric form.

17. (Twice Amended) A composition of matter according to claim 16, wherein said protein is selected from the group consisting of: a protein having a sequence of amino acids at or within about 20 amino acids from the amino terminal end comprising one of SEQ ID NO: 69 or 11; a protein encoded by a nucleic acid having the sequence of SEQ ID NO: 70 [or] or a sequence that hybridizes to the complement of the nucleotide sequence of SEQ ID NO: 70 under stringent conditions; or a protein having a sequence of amino acids comprising SEQ ID NO: 71.

C2  
cont.  
sub  
D2

19. (Amended) A composition of matter according to claim [18] 1, wherein said component possessing polymerase enhancing activity is a wholly or partially synthetic protein having the same amino acid sequence as said naturally occurring protein or analogs thereof and having [protein has] a molecular weight of approximately 17-18kD in the fully denatured, monomeric form.

C3

59. (Amended) A P45 protein produced from a cell containing a DNA construct [as claimed in claim 58] comprising a sequence encoding PEF protein P45 operably linked to an expression vector, wherein the protein is in monomeric, dimeric, or multimeric form.

C4

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sub  
D3

C5 sub D5  
95. (Amended) A non-naturally occurring composition of matter [according to claim 1] comprising a polymerase-enhancing protein encoded by [an isolated or purified] a DNA sequence that hybridizes to the complement of the nucleotide sequence of SEQ ID NO: 70 under stringent conditions.

C6 sub D5  
96. (Amended) A non-naturally occurring composition of matter [according to claim 1] comprising a polymerase-enhancing protein encoded by [an isolated or purified] a DNA sequence that hybridizes under stringent conditions to the complement of a nucleotide sequence that encodes a protein, wherein said protein has a sequence of amino acids at or within 20 amino acids of the amino terminal end comprising one of SEQ ID NO: 11 or 69.

#### REMARKS

Applicants gratefully acknowledge the personal interview with Applicants' representative conducted on May 19, 2000. The following remarks reflect and expand upon the discussion during that interview.

Applicants have canceled claims 1-8, 10-15, 18, 23, 30-39, and 45 without prejudice or disclaimer. Applicants reserve the right to pursue these claims in related applications. Claims 9, 16, 19, 59, 95 and 96 have been amended to incorporate the

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